AN ACCESS CELL DESIGN AND A METHOD FOR ENABLING AUTOMATIC INSERTION OF ACCESS CELLS INTO AN INTEGRATED CIRCUIT DESIGN

ABSTRACT OF THE DISCLOSURE

An access cell for routing current from a first cell to a second cell includes a first current path coupled to a second current path via a third current path. The third current path includes a set of three legs configured in a manner such that a first of the three legs may be severed in half to interrupt current flow between the first current path and the second current path, leaving the other two legs of the third current path intact. Either half of the first leg includes a connection point at which a spare cell may be coupled to the access cell to enable current flow between the spare cell and either the first cell or the second cell. A method for inserting access cells into an integrated circuit includes modifying a cell library so that a library description of a standard access cell is temporarily defined as having two terminals, modifying a netlist so that a set of nets listed therein are represented as two different nets, and modifying the netlist to include a set of access cells each of which is defined as being connected, at each terminal, to one of the two different nets. The modified netlist and modified cell library may then be used by a place and route tool to automatically create a layout of the integrated circuit having access cells inserted therein. After the layout has been created, the modified netlist is again modified so that the two virtual nets are once again represented in the netlist as a single net and the layout is modified so that the two virtual nets are represented in the layout as a single net.